

WHAT IS CLAIMED IS:

1. An optical device comprising:

an optical member that comprises said optical device;

5 an operating ring which can be rotated about an optical axis of said optical member and is used to drive said optical member;

a switching mechanism which transmits a drive force from a motor drive source to said operating ring, and can be switched between a state for motor-driving said optical member and a state for canceling motor driving of said optical member; and

10 control means for switching said switching mechanism between the state for motor-driving said optical member and the state for canceling motor driving of said optical member,

15 wherein said control means switches said switching mechanism to the state for canceling motor driving of said optical member on the basis of manual operation of said operating ring when said switching mechanism is set in the state for motor-driving said optical member.

2. A device according to claim 1, wherein said control means detects manual operation of said operating ring on the basis of a load state of the motor drive source.

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3. A device according to claim 2, wherein said control means detects manual operation of said operating ring on the basis of a drive current value of the motor drive source.

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4. A device according to claim 1, wherein said control means detects manual operation of said operating ring on the basis of a counterelectromotive force produced in the motor drive source.

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5. A device according to claim 1, wherein said control means detects manual operation of said operating ring on the basis of a difference between a drive state of said optical member corresponding to a drive command, and an actually driven state of said optical member.

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6. A device according to claim 5, wherein the drive command is to command a drive position of said optical member, and said control means detects manual operation of said operating ring on the basis of a difference between the drive position command of said optical member, and an actually driven position.

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7. A device according to claim 5, wherein the drive command is to command a drive velocity of said optical member, and said control means detects manual

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operation of said operating ring on the basis of a difference between the drive velocity command of said optical member, and an actually driven velocity.

5 8. A device according to claim 1, wherein said switching mechanism has a clutch mechanism for connecting/disconnecting drive force transmission between said operating ring and the motor drive source, and said control means switches said switching
10 mechanism from the state for motor-driving said optical member to the state for canceling motor driving by switching said clutch mechanism from a connected state to a disconnected state.

15 9. A device according to claim 1, wherein said optical member is a lens having a zoom function.

20 10. A device according to claim 5, wherein the drive command of said optical member is input from operation means operated by a user.

25 11. A device according to claim 5, wherein the drive command of said optical member is input from a control unit located at a position separated from said optical device.

12. A device according to claim 5, wherein the

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drive command of said optical member is input from an image sensing device which is mounted on said optical device to be able to communicate therewith, and senses an image.

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13. A device according to claim 1, wherein said switching mechanism is driven by the motor drive source which operates in accordance with operation of motor operation means.

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14. An image sensing system comprising:

an optical member that comprises an optical device;

an operating ring which can be rotated about an optical axis of said optical member and is used to drive said optical member;

a switching mechanism which transmits a drive force from a motor drive source to said operating ring, and can be switched between a state for motor-driving said optical member and a state for canceling motor driving of said optical member;

control means for switching said switching mechanism between the state for motor-driving said optical member and the state for canceling motor driving of said optical member; and

an image sensing device which is mounted on the optical device to be able to communicate therewith, and

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senses an image,

wherein said control means switches said switching mechanism to the state for canceling motor driving of said optical member on the basis of manual operation of said operating ring when said switching mechanism is set in the state for motor-driving said optical member.

15. A system according to claim 14, wherein said control means detects manual operation of said operating ring on the basis of a load state of the motor drive source.

16. A system according to claim 14, wherein said control means detects manual operation of said operating ring on the basis of a counterelectromotive force produced in the motor drive source.

17. A system according to claim 14, wherein said control means detects manual operation of said operating ring on the basis of a difference between a drive state of said optical member corresponding to a drive command, and an actually driven state of said optical member.

18. A system according to claim 14, wherein said switching mechanism has a clutch mechanism for connecting/disconnecting drive force transmission

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between said operating ring and the motor drive source,
and said control means switches said switching
mechanism from the state for motor-driving said optical
member to the state for canceling motor driving by
5 switching said clutch mechanism from a connected state
to a disconnected state.

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